

# ASCCC College Futures AB 705 Research Proposal

## INTRODUCTION

AB 705 requires (using the language in the bill) *“a community college district or college to maximize the probability that the student will enter and complete transfer-level coursework in English and mathematics within a one-year timeframe, and use, in the placement of students into English and mathematics courses in order to achieve this goal, one or more of the following: high school coursework, high school grades, and high school grade point average. The bill would authorize the board of governors to establish regulations governing the use of measures, instruments, and placement models to ensure that these measures, instruments, and placement models achieve the goal of maximizing the probability that a student will enter and complete transfer-level coursework in English and Mathematics within a one-year timeframe, and that a student enrolled in English-as-a-second-language (ESL) instruction will enter and complete degree and transfer requirements in English within a timeframe of 3 years.*

*The bill would also authorize the board of governors to establish regulations that ensure that, for students who seek a goal other than transfer, and who are in certificate or degree programs with specific requirements that are not met with transfer-level coursework, a community college maximizes the probability that a student will enter and complete the required college-level coursework in English and mathematics within a one-year timeframe.”*

In the interest of ensuring compliance with this legislation, default placement rules were developed and based upon predicted success rates were disaggregated into three bands based on high school GPA. “Success” is not defined as success in an individual course, but as completing the transfer-level course successfully within one year. See default guidelines below – which place all students, with a high school GPA into transfer-level courses regardless of previous performance in English and mathematics in high school. While previous placement models were developed using high school performance data based upon likelihood of student success, some bands in the default rules have a very high predicted failure rate because the goal has been redefined as “highly unlikely to succeed” (e.g., Statistics for students with HS GPA 2.3 has a predicted failure rate of 71% /Success rate only 29%). What are the implications for the students who will fail? Course failure rates will increase, based on the predictive analytics, and these will likely be the student’s first experience in college. Previous research indicates that the first failure is a key indicator of the student’s likelihood of persisting and attaining units. In addition, financial aid regulations now require students pass at least 66.7% of their courses each semester. This study would help identify what fraction of students failed in the original cohort and what the implications may be, thus providing valuable information to colleges on strategies to help these students.

Throughput, defined as the achievement of transfer-level competency, does appear to maximize the number of transfer-directed course completion for many (though not all) groups of students, where groups are defined by levels of high school achievement. However, the word "maximize" does **not** mean that the majority of students in every high-school-achievement group will achieve transfer-level competency, and many students will likely fail to pass the transfer-level course into which they are placed. Course failures have consequences for students' chances of continuing in

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college. What are the implications of a likely elevated rate of course failure on (1) students' chances of continuing in college and (2) students' accumulation of credits toward a postsecondary credential?

High School Performance Metric for English	Recommended AB 705 Placement for English
<b>HSGPA <math>\geq</math> 2.6</b> Success rate = 78.6%	<b>Transfer-Level English Composition</b> No additional academic or concurrent support required
<b>HSGPA 1.9 - 2.6</b> Success rate = 57.7%	<b>Transfer-Level English Composition</b> Additional academic and concurrent support recommended
<b>HSGPA <math>&lt;</math> 1.9</b> Success rate = 42.6%	<b>Transfer-Level English Composition</b> Additional academic and concurrent support strongly recommended
High School Performance Metric for Statistics/Liberal Arts Mathematics	Recommended AB 705 Placement for Statistics/Liberal Arts Mathematics
<b>HSGPA <math>\geq</math> 3.0</b> Success rate = 75%	<b>Transfer-Level Statistics/Liberal Arts Mathematics</b> No additional academic or concurrent support required for students
<b>HSGPA from 2.3 to 2.9</b> Success rate = 50%	<b>Transfer-Level Statistics/Liberal Arts Mathematics</b> Additional academic and concurrent support recommended for students
<b>HSGPA <math>&lt;</math> 2.3</b> Success rate of 29%	<b>Transfer-Level Statistics/Liberal Arts Mathematics</b> Additional academic and concurrent support strongly recommended for students
High School Performance Metric BSTEM Mathematics <sup>1</sup>	Recommended AB 705 Placement for BSTEM Mathematics
<b>HSGPA <math>\geq</math> 3.4 OR HSGPA <math>\geq</math> 2.6 AND enrolled in a HS Calculus course</b> Success rate = 75%	<b>Transfer-Level BSTEM Mathematics</b> No additional academic or concurrent support required for students
<b>HSGPA <math>\geq</math> 2.6 or Enrolled in HS Precalculus</b> Success rate = 53%	<b>Transfer-Level BSTEM Mathematics</b> Additional academic and concurrent support recommended for students
<b>HSGPA <math>\leq</math> 2.6 and no Precalculus</b> Success rate = 28%	<b>Transfer-Level BSTEM Mathematics</b> Additional academic and concurrent support strongly recommended for students

The predicted success/throughput rates were developed starting with the nodes in MMAP 2.0 analysis that computed the success rates for students that took each course listed as their first mathematics or English course at a community college. A regression analysis was then performed to adjust the success rates and produce predicted success rates for placing all students directly into transfer level courses. A

<sup>1</sup> Note: The BSTEM table presumes student completion of Intermediate Algebra/Algebra 2, an equivalent such as Integrated Math III, or higher course in high school.

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number of colleges had implemented the original MMAP placement rules and have reported that the predicted success rates are not being met and that the lower GPA bands are likely to create even greater concern. In addition, data would indicate high variability among the colleges, leading to concern about a single average prediction for all 114 colleges.

This proposal seeks to analyze the implications for students that fail English and mathematics courses. Results will be disaggregated by ethnicity, age, and part and full-time status analyzing retention, accumulated milestones and completed awards. The timeline on this proposal is relatively urgent in order to provide accurate data to the colleges before the required implementation of Fall 2019. Currently, colleges are acting rapidly to adjust placement and curriculum and a massive professional development effort is underway by the ASCCC, CCCCCO, RP and other entities.

## **SCOPE OF THE PROJECT**

### **Project Goals**

- 1. Increase accurate placement of all students into the highest level quantitative reasoning (math) and English course optimizing success in accordance with AB 705.**
- 2. Analyze data to determine the implications of failure in the initial course and potential strategies to rectify impacts.**
- 3. Provide information to colleges about variability among colleges with regards to default predictions.**
- 4. Distribute data to stimulate innovation on the strategies colleges can implement for those students who fail their first placement.**

### **Methodology**

The ASCCC would like to engage Dr. Peter Riley Bahr, major author on the initial retrospective MMAP data analysis (Improving Placement Accuracy in California's Community Colleges Using Multiple Measures of High School Achievement 2017) from University of Michigan, to determine the implications of the students that fail placement in transfer level and suggest potential strategies to help these students stay in college and complete an educational plan. Throughput is defensible because it "maximizes" the chance for completing transfer. But for many students it does not "optimize" the opportunity to complete other education goals. This study seeks to identify the fraction of students that may fail and to identify proactive strategies that helped retain those students and contribute to completion.

A team of discipline experts, from the MQRTF (Math and Quantitative Reasoning Task Force), ASCCC (Academic Senate for California Community Colleges, and RP (research and Planning Group) will review the research methodology, prior to analysis, and the data analysis upon completion. These experts will be responsible for disseminating the information in California.

### **Outcomes**

1. The outcomes for this analysis will be completed by early spring 2019 in order to provide reporting at the ASCCC 2019 spring plenary event which generally includes representatives from the 114 community colleges.

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2. A research brief will be provided for distribution throughout the state and in various California publications such as the ASCCC Rostrum and RP Perspectives, etc and via webinars and breakouts at annual meetings.

3. California Community Colleges will have relevant information moving forward based upon current outcomes strengthening the ability to place students and provide supports necessary.

### **BUDGET**

A total of \$50,000 dollars is requested for the following activities:

1. \$35,000 - Data Analysis by Dr. Peter Riley Bahr
2. \$10,000 - Meeting, travel and speaking to disseminate information and possible funding to provide expenses to support Dr. Bahr's trip to California for reporting.
3. \$5,000 for publishing expenses